

# PATENT ABSTRACTS OF JAPAN

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(21)Application number : 11-268829 (71)Applicant : HITACHI CABLE LTD  
(22)Date of filing : 22.09.1999 (72)Inventor : HIRUTA AKIHIRO

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## (54) WAVEGUIDE TYPE OPTICAL CIRCUIT AND ITS MANUFACTURING METHOD

### (57)Abstract:

**PROBLEM TO BE SOLVED:** To provide a waveguide type optical circuit, in which connection loss to an optical fiber is greatly reduced, and its manufacturing method.

**SOLUTION:** A waveguide type optical circuit has a optical waveguide 10 consisting of a core 4 which has input output sections 2 and 3 on a substrate that are connected to the core of an optical fiber and clad which covers the core 4. In the manufacturing method of the circuit, a first core film is heaped up on the substrate, the film is formed into a waveguide pattern, the pattern is etched for several times so as to leave the portions that become the sections 2 and 3 and to form a step section, and a second core film is heaped up to cover the step section. Then, the second core film is etched to make the waveguide pattern so as to form a tapered section 4h on the core 4 of the sections 2 and 3.

